

Attorney Docket: 060256-0262375

Client Reference: T297070US/PAK/kop



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of: PIIRAINEN
Application No.: 09/355,623

Confirmation Number: 6720
Group Art Unit: 2682

Filed: October 5, 1999

Examiner: Tuan A. TRAN

Title: A TRANSMISSION METHOD IN A RADIO SYSTEM ADJUSTING
TRANSMISSION MOMENTS

REQUEST FOR RECONSIDERATION

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APR 28 2004

Technology Center 2600

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated January 30, 2004, please reconsider the patentability of the pending claims based on the following remarks. Claims 1-33 are pending.

The Office Action rejected claims 1-11, 13-15, 16-27, and 29-33 under 35 U.S.C. § 103(a) as being unpatentable over Kay et al. (U.S. Patent No. 5,357,513; hereafter "Kay"), and claims 12-28 under 35 U.S.C. § 103(a) as being unpatentable over Kay in view of Bjork et al. (U.S. Patent No. 6,084,862; hereafter "Bjork"). Applicant traverses the rejections because the cited prior art references, analyzed individually or in combination, fail to teach or suggest all the features recited in the rejected claims.

For example, the cited prior art fails to teach or suggest the claimed transmission method, comprising "commanding at least the second subscriber terminal to adjust a transmission moment of the second signal within the determined time slot so that the at least one base station receives the transmitted first and second signals at different moments within

the same time slot,” as recited in independent claim 1 and its dependent claims. Similarly, the cited prior art fails to teach or suggest the claimed radio system comprising “means for commanding at least the second subscriber terminal to adjust a transmission moment of the second signal to be transmitted to the at least one base station within the determined time slot so that the at least one base station receives the transmitted first and second signals at different moments within the same time slot,” as recited in independent claim 17 and its dependent claims.

Kay merely discloses that each time slot is divided into several sub-slots that then can be used for frequency hopping for mitigating the effects of Rayleigh fading and collisions on the random access channel (Figures 15, 16, and 21; column 15 lines 8-12). The mobile occupies the identified channel (time slot or sub-time slot) for the duration of a speech spurt, and that duration only. Thus, in accordance with Kay, the mobile is not permanently assigned a channel for the duration of the conversation (column 4, lines 26-32). In other words, capacity is saved by exploiting inactive periods (column 3, lines 24-31). Because no permanent assignment of a time slot or sub-slot is made to a mobile, Kay could not be configured or adapted, contrary to its principle of operation, to provide simultaneous transmission of first and second signals in the same time slot or sub-slot. *See In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) (“If the proposed ... combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.”); MPEP § 2143.02.

Moreover, Kay also teaches that in the forward control channel of an IS-54 system, a time-slot is divided into two sub-slots, wherein each sub-slot comprises a SYNC field and a data field (Figure 10). Each data field carries two messages destined for the same or different mobiles (column 11, lines 28-33). In other words, Kay divides time-slots into sub-slots, and

transmissions occur at different times in such a way that separate transmissions do not overlap. Therefore, because Kay is generally focused on not overlapping signals, Kay cannot be construed, contrary to its principle of operation, to teach or suggest transmission of first and second signals within the same time-slot. *See In re Ratti, supra*; MPEP § 2143.02.

In contrast, according to the claimed invention, a subscriber terminal is commanded to adjust a transmission moment of a signal within the determined time slot so that the base station receives the transmitted signals of multiple subscriber terminals at different moments within the same time slot. Such re-usage of frequencies and time-slots more effectively increases spectral efficiency.

Bjork fails to remedy the deficiencies of Kay because Bjork merely discloses signal correlating techniques.

Therefore, the teachings of Kay and Bjork, analyzed individually or in combination, fail to teach “commanding at least the second subscriber terminal to adjust a transmission moment of the second signal within the determined time slot so that the at least one base station receives the transmitted first and second signals at different moments within the same time slot,” or “means for commanding at least the second subscriber terminal to adjust a transmission moment of the second signal to be transmitted to the at least one base station within the determined time slot so that the at least one base station receives the transmitted first and second signals at different moments within the same time slot,” as recited in the rejected claims.

All objections and rejections having been addressed, Applicant requests issuance of a notice of allowance indicating the allowability of all pending claims. If anything further is necessary to place the application in condition for allowance, Applicant requests that the Examiner contact Applicant’s undersigned representative at the telephone number listed below.

PIIRAINEN – 09/355,623
Client/Matter: 060256-0262375

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

By: 

CARLO M. COTRONE
Reg. No. 48,715
Tel. No. (703) 905-2041
Fax No. (703) 905-2500

Date: April 26, 2004
P.O. Box 10500
McLean, VA 22102
(703) 905-2000

Attorney's Docket 060256-0262375
Client Reference: T297070US/PAK/KOP



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of:
OLLI PIIRAINEN

Confirmation Number: 6720

Application No.: 09/355,623

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Examiner: Tuan A. TRAN

For: A TRANSMISSION METHOD IN A RADIO SYSTEM ADJUSTING TRANSMISSION MOMENTS

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AMENDMENT/RESPONSE TRANSMITTAL

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Transmitted herewith is an amendment/response for this application.

FEES

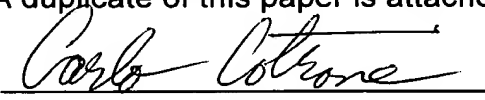
The fee for claims and extension of time (37 C.F.R. 1.16 and 1.17) has been calculated as shown below:

	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NO. PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDIT. FEE
TOTAL	33	- 33	= 0 x	\$ 18.00	= \$ 0.00
INDEP.	2	- 3	= 0 x	\$ 86.00	= \$ 0.00
FIRST PRESENTATION OF MULTIPLE DEP. CLAIM			+ \$	290.00	= \$ 0.00
TOTAL ADDITIONAL CLAIM FEE					\$ 0.00
GRAND TOTAL					\$ 0.00

FEE PAYMENT

Authorization is hereby made to charge the amount of \$0.00 to Deposit Account No. 033975. Charge any additional fees required by this paper or credit any overpayment in the manner authorized above. A duplicate of this paper is attached.

Date: April 26, 2004
PILLSBURY WINTHROP LLP
P.O. Box 10500
McLean, VA 22102
(703) 905-2041


CARLO M. COTRONE
Reg. No. 48715